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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/547,243	04/11/2000	Stanley Young Hobbs	RD-27.538	4419
6147	7590	03/25/2005	EXAMINER	
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 NISKAYUNA, NY 12309				GARCIA OTERO, EDUARDO
ART UNIT		PAPER NUMBER		
		2123		

DATE MAILED: 03/25/2005

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/547,243

Filing Date: April 11, 2000

Appellant(s): HOBBS ET AL.

Brent R. Knight, Reg. No. 54,226
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/11/2005.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct. Claims 1-72 are pending, and currently under final rejection.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct. No amendment after final has been filed.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief does not expressly assert that any claims stand or fall together. However, Applicant does expressly argue each of the independent claims: 1, 12, 25, 36, 49, and 60. The Examiner interprets this as asserting that all of the dependent claims stand or fall with their respective independent claims:

Claims 2-11 stand or fall with claim 1.

Claims 13-24 stand or fall with claim 12.

Claims 26-35 stand or fall with claim 25.

Claims 37-48 stand or fall with claim 36.

Claims 50-59 stand or fall with claim 49.

Claims 61-72 stand or fall with claim 60.

(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

6,166,814 PRINGLE 9-1998

5,593,773 MCKAY 3-1995

Computer Images (Understanding Computers series), by Time-Life Books, 1986, ISBN 0-8094-5662-1, pages 34-35, 68-69, 78-79, 80, 102.

Communications (Understanding Computers series), by Time-Life Books, 1986, ISBN 0-8094-5700-8, pages 66-67.

Computer Security (Understanding Computers series), by Time-Life Books, 1986, ISBN 0-8094-5670-2, pages 76-77.

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims. These rejections are copied verbatim from the prior office action.

Claim Interpretation

The claim language is interpreted in light of the specification. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The claim 1 term “visual effect” is interpreted as **any change in the vision (or appearance) of an object that is produced by an agent**. This broad definition includes but is not limited to the examples that Applicant provides at specification page 3 line 22 (“for example”). See “response to argument” section below for additional discussion.

In claim 25, the term “system” is interpreted as the 35 USC 101 statutory category of “machine”. In claim 36, the term “system” is interpreted as the 35 USC 101 statutory category of “machine”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action: (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Determining the scope and contents of the prior art. Ascertaining the differences between the prior art and the claims at issue. Resolving the level of ordinary skill in the pertinent art. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-72 are rejected under 35 U.S.C. 103(a) as being unpatentable.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images.

Claim 1 is an independent “computer-implemented method” claim with 2 limitations. For clarity, the Examiner uses bracketed numbers to identify multiple limitations in a single claim.

[1]-“**obtaining information relating to the additive**” is disclosed by Pringle column 1 line 22 “modeling the paint as diffusely scattering pigments immersed in a binder... Kabulka-Munk equations... identify the concentrations of pigments... transformation needs to be quantified experimentally, with the theory providing the ability to accurately interpolate between measurement points”.

Pringles does not expressly disclose the additional limitation.

[2]-“**providing a representation of the product having the visual effect based on the information relating to the additive**” is disclosed by Computer Images page 102 “graphics

Art Unit: 2123

now penetrate all three phases of computerized manufacturing, from conceptualizing the product to actually making it... manufacturers prize the enormous gains in productivity made possible by computer simulations”, and page 68-69 “To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless individual rays are reflected from shiny surfaces, absorbed by dull ones, blocked by opaque objects and transmitted, to a greater or lesser degree, by transparent and translucent ones. For a computer to emulate these effects requires a rendering technique called ray tracing.” Note that the drawing on pages 68-69 in the original prior art is in color, but only black and white copies are placed in the file and mailed to Applicant.

The claim 1 term “**visual effect**” is interpreted as **any change in the vision (or appearance) of an object that is produced by an agent**. This broad definition includes but is not limited to the examples that Applicant provides at specification page 3 line 22 (“for example”). See “response to argument” section below for additional discussion.

Thus, the Computer Images page 68-69 discussion “To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless individual rays are reflected from shiny surfaces, absorbed by dull ones, blocked by opaque objects and transmitted, to a greater or lesser degree, by transparent and translucent ones” discloses visual effects.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images to modify Pringle. One of ordinary skill in the art would have been motivated to do this to achieve “enormous gains in productivity” (per Computer images page 102) by reducing the number of “trial” coatings (per Pringle column 2 line 23) required to obtain the desired product.

Claims 2- 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and McKay and Computer Security.

In claim 2, “**additive comprises information relating to a flake material**” is disclosed by Pringle column 1 line 65 “aluminum flakes are mixed into the binder with the pigment”, and column 2 line 30 “distribution of flakes must be modeled in a statistical manner” and FIG 1 showing flakes and diffusely scattered pigments.

In claim 3, [1] “**type of flake material**” is disclosed by McKay at column 1 line 13 “median particle size”, and line 15 “aspect ratio”, and line 63 “aluminum or aluminum alloy flakes”.

Also in claim 3, [2] "**concentration of the flake material**" is disclosed by McKay at column 2 line 5 "Metal flake pigments... concentrations of 1 to 30% by weight".

In claim 4, "**information relating to a diffuser material**" is disclosed by Pringle column 1 line 22 "modeling the paint as diffusely scattering pigments immersed in a binder... Kabulka-Munk equations... identify the concentrations of pigments... transformation needs to be quantified experimentally, with the theory providing the ability to accurately interpolate between measurement points", and by Computer Images page 68-69 "To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless individual rays are reflected from shiny surfaces, absorbed by dull ones, blocked by opaque objects and transmitted, to a greater or lesser degree, by transparent and translucent ones. For a computer to emulate these effects requires a rendering technique called ray tracing."

In claim 5, [1] "**a type of diffuser material**" is disclosed by McKay at column 1 line 13 "median particle size", and line 15 "aspect ratio", and line 63 "aluminum or aluminum alloy flakes".

Also in claim 5, [2] "**a concentration of diffuser material**" is disclosed by McKay at column 2 line 5 "Metal flake pigments... concentrations of 1 to 30% by weight".

Also in claim 5, [3] "**a thickness of the product**" is disclosed by Computer Images page 68 "imitate the intricate play of light... ray tracing... shape, position, colors, textures", and drawing on pages 68-69.

Also in claim 5, [4] "**a distance between the product an object to be observed behind the product**" is disclosed by Computer Images page 68 "imitate the intricate play of light... ray tracing... shape, position, colors, textures", and drawing on pages 68-69.

In claim 6, "**color of the product**" is disclosed by Computer Images page 68 "imitate the intricate play of light... ray tracing... shape, position, colors, textures", and drawing on pages 68-69.

In claim 7, "**retrieving the representation from a database of representations associated with a plurality of products having visual effects, and computer generating the representation of the product having the visual effect**" is disclosed by Computer Images page 34 "Once created... stored in a library of shapes and recalled for future use", and page 35 "a library of basic circuit components", and pages 79 "5 key frames of a deer", and page 80 "library

of 26 preformed solid shapes”, and page 84 “The ship could be enlarged or reduced in size at will, and—more significant—it could be easily replicated”.

In claim 8, “**storing the representation... and allowing authorized access**” is disclosed by Computer Security at page 76-77 “Controlling Access to Computer files”.

In claim 9, “**obtaining a request for a physical sample of the product having the visual effect**” is disclosed by Pringle column 2 line 23 “trial” coatings.

In claim 10, “**determining ingredients and concentrations for producing the product having the visual effect**” is disclosed by Computer Images page 102 “graphics now penetrate all three phases of computerized manufacturing, from conceptualizing the product to actually making it... manufacturers prize the enormous gains in productivity made possible by computer simulations”.

In claim 11, “**plastic material**” is Pringle column 1 line 22 “modeling the paint as diffusely scattering pigments immersed in a binder”, and Computer Images page 102 “plastic”

MOTIVATION FOR CLAIMS 2-11. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images and McKay and Computer Security to modify Pringle. One of ordinary skill in the art would begin with Pringles as a basic model of flaked paint, would be motivated to use Computer Images ray tracing simulations in order to gain in productivity by simulating designs to determine the design parameters before producing Pringle’s trial coatings.

Further, one of ordinary skill in the art would be motivated to improve the detail and accuracy of the Pringles model by incorporating additional details from McKay such as the physical parameters of the flake and the concentration of the flake, and by incorporating additional details from Computer Images such as the shape and positions of the objects for ray tracing. All of these properties are essential for accurate ray tracing. Additionally, it is good standard computer image “bookkeeping” procedure to save time by organizing sets of related images in database libraries per Computer Images, and to exercise good standard security practices by restricting access per Computer Security in order to protect the data and the programs.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and Communications.

Claim 12 is an independent “method” claim with 3 limitations. For clarity, the Examiner uses bracketed numbers to identify multiple limitations in a single claim.

[1]-“**obtaining information relating to the additive**” is disclosed by Pringle column 1 line 22 “modeling the paint as diffusely scattering pigments immersed in a binder... Kabulka-Munk equations... identify the concentrations of pigments... transformation needs to be quantified experimentally, with the theory providing the ability to accurately interpolate between measurement points”.

Pringles does not expressly disclose the additional limitation.

[2]-“**providing a representation of the product having the visual effect based on the information relating to the additive**” is disclosed by Computer Images page 102 “graphics now penetrate all three phases of computerized manufacturing, from conceptualizing the product to actually making it... manufacturers prize the enormous gains in productivity made possible by computer simulations”, and page 68-69 “To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless individual rays are reflected from shiny surfaces, absorbed by dull ones, blocked by opaque objects and transmitted, to a greater or lesser degree, by transparent and translucent ones. For a computer to emulate these effects requires a rendering technique called ray tracing.” Note that the drawing on pages 68-69 in the original prior art is in color, but only black and white copies are placed in the file and mailed to Applicant.

[3]-“**first computing unit coupled via a communications network to a second computing unit**” is disclosed by Communications page 66-67 “number of machines... network... communication system dispersed over a wide geographical area”.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images and Communications to modify Pringle. Starting with Pringle’s basic model of flaked paint, one of ordinary skill in the art would be motivated to look to use Computer Images simulation in order to achieve “enormous gains in productivity” (per Computer Images page 102) by reducing the number of “trial” coatings (per Pringle column 2 line 23) required to obtain the desired product. One of ordinary skill would further be motivated to provide this simulation efficiently to many users by using a communications network to efficiently connect the multiple users. Using a network further allows the software and data to be centralized, and to control access.

Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and Communications and McKay and Computer Security.

Claims 13-24 depend from independent claim 12

Claims 13-22 have the same additional limitations as dependent claims 2-11 respectively, and thus are rejected for the same reasons.

In claim 23, “**communications network is a global computer network**” is disclosed by Communications page 66-67 “number of machines... network... communication system dispersed over a wide geographical area”.

In claim 24, “**transferring, from the second computing unit a module for representing a plurality of products having a plurality of additives to the first computing unit**” is disclosed by Communications page 66-67 “Packet Switching: An Efficient Way to Shuttle Data... allow users in several locations to share computing facilities and resources”, and Computer Images page 35 “use Sketchpad to create a library of basic circuit components such as transistors and resistors”.

MOTIVATION FOR CLAIMS 13-24. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images and Communications and McKay and Computer Security to modify Pringle. Starting with Pringle’s basic model, one of ordinary skill in the art would be motivated to look to use Computer Images simulation in order to achieve “enormous gains in productivity” (per Computer Images page 102) by reducing the number of “trial” coatings (per Pringle column 2 line 23) required to obtain the desired product. One of ordinary skill would further be motivated to provide this simulation efficiently to many users by using a communications network to efficiently connect the multiple users. Using a network further allows the software and data to be centralized, and to control access, and to efficiently shuttle data and share resources. Further, one of ordinary skill in the art would be motivated to improve the detail and accuracy of the Pringles model by incorporating additional details from McKay such as the physical parameters of the flake and the concentration of the flake, and by incorporating additional details from Computer Images such as the shape and positions of the objects for ray tracing. All of these properties are essential for accurate ray tracing. Additionally, it is good standard computer image “bookkeeping” procedure to save time by organizing sets of related images in database libraries per Computer Images, and to exercise

good standard security practices by restricting access per Computer Security in order to protect the data and the programs. One of ordinary skill would further be motivated to provide this simulation efficiently to many users by using a communications network to efficiently connect the multiple users. Using a network further allows the software and data to be centralized, and to control access.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and Communications.

Claim 25 is an independent “system” (machine) claim with 3 limitations. For clarity, the Examiner uses bracketed numbers to identify multiple limitations in a single claim.

[1]-“**obtaining information relating to the additive**” is disclosed by Pringle column 1 line 22 “modeling the paint as diffusely scattering pigments immersed in a binder... Kabulka-Munk equations... identify the concentrations of pigments... transformation needs to be quantified experimentally, with the theory providing the ability to accurately interpolate between measurement points”.

Pringles does not expressly disclose the additional limitation.

[2]-“**providing a representation of the product having the visual effect based on the information relating to the additive**” is disclosed by Computer Images page 102 “graphics now penetrate all three phases of computerized manufacturing, from conceptualizing the product to actually making it... manufacturers prize the enormous gains in productivity made possible by computer simulations”, and page 68-69 “To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless individual rays are reflected from shiny surfaces, absorbed by dull ones, blocked by opaque objects and transmitted, to a greater or lesser degree, by transparent and translucent ones. For a computer to emulate these effects requires a rendering technique called ray tracing.” Note that the drawing on pages 68-69 in the original prior art is in color, but only black and white copies are placed in the file and mailed to Applicant.

[3]-“**first computing unit coupled via a communications network to a second computing unit**” is disclosed by Communications page 66-67 “number of machines... network... communication system dispersed over a wide geographical area”.

[4]-“processor” is disclosed by Computer Images page 102 “graphics now penetrate all three phases of computerized manufacturing, from conceptualizing the product to actually making it...”. Note that said computers contain processors.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images and Communications to modify Pringle. Starting with Pringle’s basic model of flaked paint, one of ordinary skill in the art would be motivated to look to use Computer Images simulation (using processors) in order to achieve “enormous gains in productivity” (per Computer Images page 102) by reducing the number of “trial” coatings (per Pringle column 2 line 23) required to obtain the desired product. One of ordinary skill would further be motivated to provide this simulation efficiently to many users by using a communications network to efficiently connect the multiple users. Using a network further allows the software and data to be centralized, and to control access, and to efficiently bill the user.

Claims 26-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and Communications and McKay and Computer Security.

Claims 26-35 depend from claim 25, with the same additional limitations as claims 2-11 respectively, and thus are rejected for the same reasons.

MOTIVATION FOR CLAIMS 26-35. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images and McKay and Computer Security to modify Pringle. One of ordinary skill in the art would begin with Pringles as a basic model of flaked paint, would be motivated to use Computer Images ray tracing simulations in order to gain in productivity by simulating designs to determine the design parameters before producing Pringle’s trial coatings.

Further, one of ordinary skill in the art would be motivated to improve the detail and accuracy of the Pringles model by incorporating additional details from McKay such as the physical parameters of the flake and the concentration of the flake, and by incorporating additional details from Computer Images such as the shape and positions of the objects for ray tracing. All of these properties are essential for accurate ray tracing. Additionally, it is good standard computer image “bookkeeping” procedure to save time by organizing sets of related images in database

libraries per Computer Images, and to exercise good standard security practices by restricting access per Computer Security in order to protect the data and the programs.

Claims 36-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and Communications and McKay and Computer Security.

Claims 36-48 are “means for” claims with the same limitations as claims 12-24 respectively, and are rejected for the same reasons with the same motivation.

Claims 49-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and McKay and Computer Security.

Claims 49-59 are “program storage device readable by a machine” claims with the same limitations as claims 1-11 respectively, and are rejected for the same reasons.

Claims 60-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pringle in view of Computer Images and Communications and McKay and Computer Security.

Claims 60-72 are “article of manufacture” claims with the same limitations as claims 12-24 respectively, and are rejected for the same reasons.

(11) Response to Argument

The Examiner will follow Applicant’s headings regarding A-E.

A. VISUAL EFFECT HAS SPECIAL MEANING.

Applicant asserts that the term “visual effect” has special meaning and definition that departs from common usage. However, Specification page 3 line 22 states “As used herein the term “visual effect” **includes, for example**, speckled, metallic, pealescense, fluorescence... translucent...”. Emphasis added. Thus, the Specification merely provides some examples. This is not a clear definition of the sort that should be imported into the claim language as a restriction. This argument is non-persuasive.

Additionally, the term “visual effect” appears to be used in the specification and in the claims as ordinarily used in the art of graphics.

“Visual” is defined as “of, relating to, or used in vision” in Webster’s Third New International Dictionary, 1993.

“Effect” is defined as “something that is produced by an agent” in Webster’s Third New International Dictionary, 1993.

Thus, the term **“visual effect” is interpreted as any change in the vision (or appearance) of an object that is produced by an agent.** This broad definition includes the examples that Applicant provides at specification page 3.

To summarize, the Specification does not provide any specific definition for the term “visual effect”, but only provides some examples.

B. FIRST GROUND OF REJECTION (INDEPENDENT CLAIM 1)

Applicant asserts that neither Pringle nor Computer Images disclose the third limitation “providing a representation of the product having the visual effect based on the information relating to the additive”. Applicant does not provide any discussion or rationale for this assertion.

However, said third limitation (“providing a representation of the product having the visual effect based on the information relating to the additive”) is disclosed by Computer Images page 102 “graphics now penetrate all three phases of computerized manufacturing, from conceptualizing the product to actually making it... manufacturers prize the enormous gains in productivity made possible by computer simulations”, and page 68-69 “To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless **individual rays are reflected from shiny surfaces, absorbed by dull ones, blocked by opaque objects and transmitted, to a greater or lesser degree, by transparent and translucent ones.** For a

computer to emulate these effects requires a rendering technique called ray tracing.” Note that the drawing on pages 68-69 in the original prior art is in color, but only black and white copies are placed in the file and mailed to Applicant.

Thus, Computer Images discloses the technique of “ray tracing”, which is used to calculate and graphically display the “intricate interplay of light in a scene” (visual effects) due to reflection, absorption and blocking. **The Computer Images “blocking”, for example, may be due to the metal flakes of Pringle.** Note that Pringle Abstract discusses measuring many properties of metal flakes. These same properties can be applied to the Computer Images “ray tracing” programs to generate accurate images.

Applicant further asserts that the motivation provided by the Examiner “appears to be based on potential advantages hypothesized by the Examiner, not on the teachings supported by evidence in the art”. This assertion appears contrary to the written record. The Examiner’s motivational statement is thoroughly and explicitly supported by the prior art:

“At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images to modify Pringle. One of ordinary skill in the art would have been motivated to do this to achieve “enormous gains in productivity” (per Computer images page 102) by reducing the number of “trial” coatings (per Pringle column 2 line 23) required to obtain the desired product.”

C. SECOND GROUND OF REJECTION (INDEPENDENT CLAIM 49).

The Applicant makes the same assertions regarding “visual effects” that have already been addressed above regarding claim 1. The Examiner does not have any additional comments.

D. THIRD GROUND OF REJECTION (INDEPENDENT CLAIMS 12 AND 25).

Applicant asserts that the prior art does not disclose the claim 12 limitation “providing from the second computing unit a representation of the product having the visual effect for display on the first computing unit based on the information relating to the additive”. However, Communications page 66-67 discloses “number of machines... network... communication system dispersed over a wide geographical area”. In other words, Communications discloses a first computer connected to a second computer (“number of machines”) across a network or communication system. For example, the simulation software may be stored and simulated at a central computer, whereas the user may access the software from another computer at another location, possibly through the internet.

Applicant additionally asserts that the motivation provided for claim 12 “appears to be based on potential advantages hypothesized by the Examiner, and not on the teachings supported by evidence in the art”. The motivational statement regarding claim 12 is:

“At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use Computer Images and Communications to modify Pringle. Starting with Pringle’s basic model of flaked paint, one of ordinary skill in the art would be motivated to look to use Computer Images simulation in order to achieve “enormous gains in productivity” (per Computer Images page 102) by reducing the number of “trial” coatings (per Pringle column 2 line 23) required to obtain the desired product. One of ordinary skill would further be motivated to provide this simulation efficiently to many users by using a communications network to efficiently connect the multiple users. Using a network further allows the software and data to be centralized, and to control access.”

Although not clearly stated or claimed, Applicant's intent appears to be to use the Internet (a network or communications system) to connect a potential buyer's computer to the seller's computer. Thus, the potential buyer could experiment with various "visual effects" before making a purchase. This type of communication appears to be the entire purpose behind computer networks, see Communications page 67 "computer networks were developed to allow users in several stations to share computer facilities and resources". This type of internet use for marketing is ubiquitous.

The claim 12 motivational statement "motivated to provide this simulation efficiently to many users by using a communications network to efficiently connect the multiple users. Using a network further allows the software and data to be centralized, and to control access" is supported by the Communications page 66-67 term "allow users in several locations to share computing facilities and resources".

Applicant's assertions regarding claim 25 are similar to the above discussion of claim 12, and are not persuasive for the same reasons.

E. FOURTH GROUND OF REJECTIONS (INDEPENDENT CLAIMS 36 AND 60).

Applicant asserts that the prior art does not disclose the claim 36 limitation "processor adapted to provide a representation of the product having the visual effect for display on a first computing unit based on the information relating to the additive". Using a microprocessor to perform the ray tracing calculations of Computer Images is inherent. See the term "computer graphics" at Computer Images page 68-69 "To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless individual rays...".

Regarding the claim terms “first computer” and “second computer”, see the above discussion regarding claim 12.

Regarding claim 60, Applicant asserts that the limitation “computer readable program code...” is not disclosed by the prior art. See the term “computer graphics” at Computer Images page 68-69 “To mimic reality, computer graphics must imitate the intricate play of light in a scene, where countless individual rays...”,

Regarding the claim terms “first computer” and “second computer”, see the above discussion regarding claim 12.

POTENTIALLY PATENTABLE MATERIAL

As stated in the prior office action, the Examiner believes that this application may contain some potentially patentable material. The Applicant has not claimed any of this potentially patentable material. The Applicant has appealed the prior office action without attempting to claim the potentially patentable material.

Specifically, specification page 10 and FIG 6 discuss an interesting procedure for simulating irregular 650 micron flakes. Only certain pixel configurations are allowed, as illustrated by the FIG 6 rightmost simulated flake, with a square core of 4 pixels and an additional “dashed portion” of three adjacent pixels wrapping one of the corners. **Excluding other configurations as “unacceptable” for 650 micron flakes is not disclosed by the prior art of record. This type of negative limitation is potentially patentable material. See MPEP 2173.05(i) regarding negative limitations.**

The Examiner interprets FIG 6 as disclosing 4 allowable configurations (where said "dashed portion" wraps one of the 4 possible corners of the square core), and where all other possible pixel configurations are excluded.

To summarize, the Application may contain patentable material that has not yet been claimed.

CONCLUSION

All pending claims have been rejected.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

March 16, 2005

Conferees
Ed Garcia-Otero, Assistant Patent Examiner

Kevin Teska, Supervisory Patent Examiner

Kakali Chaki, Supervisory Patent Examiner

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